CRC 425 / February 1980

LEVEL II

A NEW LOOK AT SUCCESS CHANCES OF RECRUITS ENTERING THE NAVY (SCREEN)

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: CRC-425
2. GOVT ACCESSION NO.: AD-A085396
3. RECIPIENT'S CATALOG NUMBER:

4. TITLE (and Subtitle): A New Look at Success Chances of Recruits Entering the Navy (SCREEN)
5. TYPE OF REPORT & PERIOD COVERED:
6. PERFORMING ORG. REPORT NUMBER:

7. AUTHOR(s): Robert F. Lockman, Philip M. Lurie
8. CONTRACT OR GRANT NUMBER(s): N00014-76-C-0001

9. PERFORMING ORGANIZATION NAME AND ADDRESS: Center for Naval Analyses, 2000 N. Beauregard Street, Alexandria, Virginia 22311
10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS:

11. CONTROLLING OFFICE NAME AND ADDRESS: Office of Naval Research, Department of the Navy, Arlington, Virginia 22217
12. REPORT DATE: February 1980
13. NUMBER OF PAGES: 31

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): Office of the Chief of Naval Operations (Op96), Department of the Navy, Washington, D.C. 20350
15. SECURITY CLASS. (of this report): Unclassified
15a. DECLASSIFICATION/DOWNGRADING SCHEDULE:

16. DISTRIBUTION STATEMENT (of this Report):

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report):

Approved for public release; distribution unlimited.

18. SUPPLEMENTARY NOTES:
This Research Contribution does not necessarily represent the opinion of the Department of the Navy.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number):
attrition, enlisted personnel, females, Probit analysis, recruiting, regression analysis, retention (general), SCREEN, survival (personnel)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number):
SCREEN is a table of chances of completing the first year of service used in qualifying applicants for enlistment. The chances are a function of educational level, mental group, age, and dependency status. Because SCREEN was based on regular Navy recruits in 1973, it was updated on recruits and extended to reservists and women who enlisted in 1977. The 1977 regular and reservist SCREENs are compared with one another and with the 1973 version. A women's SCREEN is evaluated in light

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-LF-014-6601

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

403542

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20 of current recruiting policy. A streamlined version of the 1973 SCREEN is presented, along with a cost-benefit analysis of the qualifying score.

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5 May 1980

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A NEW LOOK AT SUCCESS CHANCES OF RECRUITS ENTERING THE NAVY (SCREEN)

BACKGROUND

Success Chances of REcruits Entering the Navy (SCREEN) is a table of chances of completing the first year of service. It was developed on non-prior-service (NPS) males who enlisted in the regular Navy in CY 1973 (reference 1). SCREEN has been used by recruiters since October 1976 in qualifying applicants for enlistment.

The current version of SCREEN (reference 2) is shown in table 1. It is based on grade of education, whether or not the applicant has dependents, his Armed Forces Qualification Test (AFQT) score, and age. The minimum score for eligibility today is 70.

To check the validity of SCREEN, we followed CY 1977 recruits through their first year of service. Besides tracking NPS USN males, we tracked male reservists and NPS females for the first time.

Table 2 describes the major characteristics of the recruit cohorts studied. The number of USN males in 1973 and 1977 was about the same. In 1973, however, 26 percent of them were in a 3-year obligor program that was terminated on 1 July 1975. The main differences between 1973 and 1977 are that:

- Participation in the Delayed Entry Program increased from 49 to 75 percent,
- Recruits age 20 or older climbed from 17 to 24 percent,
- A-school attendees increased from 54 to 64 percent,
- Minorities rose from 11 to 15 percent, and
- First-year loss rate went from 17 to 20 percent.

Despite these differences, the relationships between recruit characteristics and first-year survival could be similar in 1973 and 1977. That is what we sought to find out in validating SCREEN with 1977 data.

TABLE 1

SUCCESS CHANCES FOR RECRUITS ENTERING THE NAVY (SCREEN)

		P	Q	R	S	T	V	W	X	
Grade		More Than 12		12		11		Less Than 11		
Dependent Status		No Dep	Dep	No Dep	Dep	No Dep	Dep	No Dep	Dep	
AFQT	Age									
95-100	18-19	96	94	95	93	90	87	89	84	
	17	96	94	94	92	90	86	88	83	
	20+	95	93	93	90	88	83	86	80	
67-94	18-19	92	89	90	86	82	76	79	72	
	17	92	88	89	84	81	74	78	70	Minimum SCREEN
	20+	90	86	87	82	78	70	74	66	Eligibility
50-66	18-19	91	87	88	83	79	72	76	68	
	17	90	86	87	82	77	70	74	66	
	20+	88	84	84	79	74	66	70	62	
35-49	18-19	87	82	83	77	72	63	68	59	
	17	86	81	81	75	70	61	66	57	
	20+	83	78	78	71	66	57	62	52	
21-34	18-19	85	79	80	73	68	59	64	55	
	17	84	78	79	72	66	57	62	52	
	20+	81	74	75	68	62	52	57	48	

Note 1: An applicant with an AFQT Range of 20 or less may not be enlisted.

TABLE 2

CHARACTERISTICS OF SCREEN COHORTS

	USN males CY 73	USN males CY 77	USNR males CY 77	USN females CY 77
Number	66,680[a]	68,309	14,811	4,415
Delayed entry	49%	75%	67%	89%
Waivers[b]	?	25	29	11
H.S. diploma	71	69	59	84
MG 1-3U	64	72[c]	62	90
Age 20 or older	17	24	24	41
Minorities	11	15	19	12
Dependents	6	7	6	4
A school	54	64	45	62
1st-year loss	17	20	23	16

[a]26 percent of these were 3 YOs.

[b]About half of these waivers were for pre-service drug use.

[c]Equivalent to 68 percent on the BTB AFQT standard used for the CY 73 USN males (reference 4).

The 1977 cohorts contained approximately 68 thousand USN males, 15 thousand USNR males,[1] and 4500 USN women. The majority of each cohort was in the Delayed Entry Program, in the upper three mental groups, and had high school diplomas. Less than 5 percent of the males were 20 or older when they came on active duty, compared to over 40 percent of the women. Only a very small percentage in each cohort had dependents or were married when they enlisted. The waiver rate of the males was twice that of the women. Over 60 percent of the USN males and females attended Class A schools during the first year of service, compared to 45 percent of the USNR males. First-year loss rates ranged from 16 to 20 percent.

METHODOLOGY

The characteristics related to first year survival for the three 1977 cohorts were education, mental group, age, and dependency status. Education, rather than being the number of years or grade as used in the current SCREEN, was defined as high school diploma (or more), certificate of equivalency (principally GED), and less than high school. Mental group was derived from the AFQT score on forms 6 and 7 of the Armed Services Vocational Aptitude Battery (ASVAB). Age in years and the presence of primary dependents (or marital status, in the case of the women) were taken as of active duty service date.

SCREEN tables based on these characteristics for the first time were developed using the Cox regression model. The Cox model can be applied to cross-sectional data and generates a survival curve rather than a point-estimate of survival (reference 3). Although this analysis uses a longitudinal data base and considers only the one-year survival point, we used the Cox model because of its computational efficiency. Also, because the effects of recruit characteristics on survival differ among GENDETs,[2] Class A school disenrollees, and Class A school graduates, the tables are developed using a methodology that recognizes these differences. Since recruiters initially do not know whether or not a recruit will attend a Class A school, the probabilities of graduation and disenrolling are incorporated into the SCREEN tables.

We determined whether each recruit in this cohort went to Class A school and, if so, graduated. This determination was made after one year of service or at the time of separation from the Navy if length of service was less than one year.

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[1] These reservists were in the Active-Mariner program which requires 3 years of active duty.

[2] General detail or GENDET recruits do not receive specialized training in Class A schools before being "detailed" to the fleet.

Denote the probability that a recruit will go to A school by P(A) and the probability that he will not (i.e., he will be a GENDET) by $P(\bar{A})$. Let P(A,D) be the probability that a recruit goes to A school but is disenrolled, and let P(A,G) be the probability that a recruit goes to A school and graduates. We may write

$$P(A,D) = P(D \mid A)P(A) \tag{1}$$

and

$$P(A,G) = P(G \mid A)P(A). \tag{2}$$

The probabilities $P(\bar{A})$, P(A,D) and P(A,G) can be estimated by means of probit analysis (reference 3). First, for each recruit in the cohort, we calculate

$$Y_1 = \begin{cases} 1 & \text{if recruit went to A school} \\ 0 & \text{if not,} \end{cases}$$

Then we perform a probit analysis on this dependent variable to estimate $P(A) = P(Y_1=1)$. Of course, $P(\bar{A})$ is estimated by 1-P(A).

Next, considering only those recruits who went to A school, we calculate

$$Y_2 = \begin{cases} 1 & \text{if recruit completed A school} \\ 0 & \text{if not,} \end{cases}$$

and estimate $P(G \mid A) = P(Y_2=1)$ and $P(D \mid A) = 1-P(G \mid A)$ in a similar manner. From these probabilities, we can then obtain estimates of P(A,D) and P(A,G) from expressions (1) and (2). Conditional on being a GENDET, A school disenrollee, or A school graduate, we calculated the probability of surviving at least 12 months of service. The overall probability (i.e., not conditional on knowing which of the above events will occur) of survival is then computed as

$$\begin{aligned} P(T \geq 12) = {} & P(T \geq 12 \mid \bar{A}) + P(T \geq 12 \mid A,D)P(A,D) \\ & + P(T \geq 12 \mid A,G)P(A,G), \end{aligned} \tag{3}$$

where T denotes survival time. The probabilities determined from (3) constitute the new SCREEN scores.

The covariates (recruit characteristics) that we considered in our analysis of women are defined below:

MARRIED = 1 if enlistee is married
0 otherwise

NHSG = 1 if enlistee does not have high school or high school equivalency diploma
0 otherwise

GED = 1 if enlistee has a high school equivalency diploma
0 otherwise

MGRP1 = 1 if enlistee is in mental group 1
0 otherwise

MGRP2 = 1 if enlistee is in mental group 2
0 otherwise

MGRP3U = 1 if enlistee is in mental group 3 upper
0 otherwise

AGE17 = 1 if enlistee is 17 years old
0 otherwise

AGE19 = 1 if enlistee is 19 years old
0 otherwise

AGE20 = 1 if enlistee is 20 years old
0 otherwise

AGE21 = 1 if enlistee is 21 years old
0 otherwise

AGE22 = 1 if enlistee is 22 years old
0 otherwise

AGE23P = 1 if enlistee is 23 or more years old
0 otherwise.

The base group of women includes those with a value of 0 for each of the variables listed above (i.e., non-married, high school graduate, mental group 3 lower, age 18).

For USN and USNR males, the covariates were:

PDEPS = 1 if enlistee has primary dependents; 0 otherwise

NHSG
GED
MGRP1
MGRP2
MGRP3U = defined previously for women.

MGRP3L = 1 if enlistee is in mental group 3 lower; 0 otherwise

AGE17
AGE19 = defined previously for women

AGE20P = 1 if enlistee is 20 or more years old; 0 otherwise

For women, we chose the variable MARRIED rather than PDEPS since women are less likely to claim their husbands as dependents. The other differences in covariate selection result from different population frequencies for mental group and age between men and women.

RESULTS

Estimates of the coefficients from each of the five regressions required to calculate the SCREEN tables are given in appendix A for USN males, USNR males, and USN females, respectively. These coefficients were used to determine the probabilities on the right-hand side of equation (3) for each possible combination of covariate values. The SCREEN scores correspond to the left-hand side of equation (3). However, when only slight differences in survival were observed across the levels of some covariates, these covariates were eliminated from the SCREEN tables.

CY 1977 SCREEN Tables

Table 3 is a CY 1977 SCREEN table for USN NPS males. It incorporates mental groups, two age groups (17 through 19 and 20 or older), and three educational levels (diploma, GED, and less than high

school) for single men and for men with dependents. The general pattern of decreasing chances as mental group and educational level decline is evident as it is in the 1973 SCREEN.[1]

TABLE 3

FIRST YEAR SCREEN FOR CY 1977 USN MALES

Mental Group	Age	No dependents			Dependents		
		Diploma	GED	LT HS	Diploma	GED	LT HS
1	17-19	93	85	77	96	91	87
	20+	89	80	70	94	88	83
2	17-19	91	83	75	95	90	86
	20+	87	77	67	94	87	82
3U	17-19	88	80	72	94	88	84
	20+	83	73	64	92	85	79
3L	17-19	83	75	68[a]	92	86	81[a]
	20+	77	68	60[a]	88	82	76[a]
4	17-19	75	68[a]	62[a]	87	81[a]	77[a]
	20+	68	61[a]	54[a]	82	76[a]	72[a]

[a]Currently not eligible for enlistment.

The main difference from the current SCREEN is that the success chances of recruits with dependents are greater, rather than less, than those of single recruits. In part this is due to very small cell sizes in the lower right corner of the table, and in part it appears to be a reflection of socioeconomic changes.

For men with dependents, the first-year survival rate rose from 77 percent in 1973 to 88 percent in 1977. For single recruits, it fell from 82 percent to 80 percent. Over the same period, the percentage of married 18 and 19 year-olds in the U.S. population dropped from 10 to 6 percent, while the unemployment rate for 16 to 19 year-olds rose from 13 to 17 percent. Although the ratio of

[1]To qualify for enlistment today, all mental group 4s must have high school diplomas, and all mental group 3 lowers must have GED certificates.

military to civilian pay declined, married men with dependents get more pay and benefits than single men.

These facts imply that the selected married recruits in 1977 were more stable and had better economic security and job opportunities in the Navy than in civilian life.

A 1977 SCREEN table for reservists shown in table 4 has a pattern of chances like that of the regular Navy recruits. The reservists had so few mental group 1 recruits that we pooled them with the one SCREEN table with little or no loss in validity. The average differences in the chances for reservists versus regulars are zero for diploma graduates, minus 1 for GEDs, and plus 2 for men with neither diplomas nor certificates. Men with dependents again have higher chances than single men.

A SCREEN for women is presented in table 5. Recruiting policy specifies that women have to be high school graduates (HSDG or GED) and school eligible, resulting in most being in the upper three mental groups. Only 84 of the 4500 women in the cohort had less than a diploma or GED, so we deleted them from the analysis. We also found that married women had lower chances of surviving the first year than women who were not married. But since there were only 170 married women, we pooled them with the others. The resulting SCREEN table again shows the pattern of decreasing chances as education and mental group decline.

A problem might arise if this women's SCREEN were used. Only 4500 women entered the Navy in calendar 1977, mostly in traditional jobs. In FY 1980, the recruiting goal for women is close to 11,000, and many will enter non-traditional jobs. Consequently, the women's SCREEN table might lose validity in this new situation. However, a SCREEN is not necessary as long as recruiting policy requires women to be high school graduates in the upper three mental groups.

Now we can draw together what we know about the male SCREENs and recruiting policies. The USN and USNR chances are similar enough that they can be pooled with no appreciable loss in validity. Further, the pattern of chances by education, mental group, and age is similar to that in the current SCREEN. Since the 1977 male SCREEN for men with dependents would admit all married applicants, it would not be feasible to use. Today, mental group 4s must be high school graduates and mental group 3Ls must have GED certifications. In FY 1980, changes in the ASVAB tests and norms are expected. And we are applying a survival model that uses timely data to produce survival curves over the first enlistment term. These curves will show a moving picture of survival across months, rather than a snapshot at the end of the first year (or any other point in time). Consequently, it would be prudent to retain the current SCREEN for the time being. At the same time, a streamlined version of it could easily be used with little loss in precision.

TABLE 4

FIRST YEAR SCREEN FOR CY 1977 USNR MALES

Mental group	Age	No dependents			Dependents		
		Diploma	GED	LT HS	Diploma	GED	LT HS
1&2	17-19	89	81	76	94	89	87
	20+	86	76	71	93	87	83
3U	17-19	86	77	73	93	87	84
	20+	82	72	67	91	84	81
3L	17-19	82	73	68[a]	91	85	82[a]
	20+	78	68	63[a]	88	82	78[a]
4	17-19	76	67[a]	62[a]	87	81[a]	77[a]
	20+	71	61[a]	56[a]	84	76[a]	73[a]

[a]Currently not eligible for enlistment.

TABLE 5

FIRST YEAR SCREEN FOR CY 1977 USN FEMALES

Mental group	Diploma	GED
1	92	85
2	87	81
3U	85	78
3L	84	76

Streamlined Current SCREEN Table

A streamlined version of the current SCREEN is shown in table 6. It differs from the current version in three ways:

1. Chances for 17 year-olds are pooled with those of 18 and 19 year-olds. There was only a one-point difference between them anyway.

2. Years of education greater than 12 are pooled with 12 years of education. Just about any applicant with 12 or more years of education is enlisted, as is the case with applicants who have diplomas. Also, years or grade of education have been better defined by the recruiting command since the original SCREEN was implemented, whereas GEDs (and certificates of high school attendance and completion) vary by state and are susceptible to manipulation.

3. The chances for men with and without dependents have been pooled. Thus, the small proportion of recruits with dependents would be given an advantage that is justified by findings from the 1977 cohorts.

TABLE 6

STREAMLINED CURRENT SCREEN

AFQT	Age	Grade: 12 or more	Grade: 11	Grade: Less than 11
95-100	17-19	94	90	89
	20+	92	87	85
67-94	17-19	90	82	79
	20+	86	76	73
50-66	17-19	88	78	75
	20+	83	73	70
35-49	17-19	82	71	67
	20+	77	65	61
21-34	17-19	80	67	63
	20+	74	61	56

The AFQT score ranges continue to reflect the more stringent mental group standards of the Basic Test Battery used prior to the introduction of the ASVAB.

Table 7 compares the streamlined SCREEN for males with the 1977 version that uses educational levels instead of years of education. The two versions are not completely comparable. The streamlined SCREEN mental groups reflect the BTB AFQT standard, whereas the 1977 SCREEN uses the less stringent ASVAB AFQT standard (reference 4).

TABLE 7

CURRENT AND UPDATED SCREEN
CHANCES FOR CY 1977 NPS MALES

Mental[a] group	Age	12 or more	Diploma	11	GED	10 or less	LT HS
1	17-19	94	93	90	85	89	77
	20+	92	90	87	82	85	74
2	17-19	90	91	82	83	79	76
	20+	86	88	76	79	73	71
3U	17-19	88	88	78	80	75	73
	20+	83	84	73	75	70	67
3L	17-19	82	83	71	75	67	68
	20+	77	78	65	70	61	62
4	17-19	80	75	67	68	63	62
	20+	74	79	61	61	56	56

[a] BTB standard for current SCREEN, and ASVAB standard for updated SCREEN.

Remember that recruiting policy specifies that mental group 4s must be high school diploma graduates, and that mental group 3 lowers need at least a GED to qualify. The biggest differences in this table are between mental group 4s with diplomas versus 12+/12 years of education, and between mental group 1s with less than high school diplomas versus less than 12 years of education. These differences as well as the differences in mental group standards turn out to be of no consequence. The applicants who would be

affected by them would qualify for enlistment under any reasonable standard.[1]

Qualifying Scores

The streamlined current SCREEN would suffice for operational use, but what about the qualifying score of 70?

Table 8 shows the effects of possible qualifying scores compared to the lowest score, which would let in an entire cohort. The data are scaled to the FY 1980 goal of 82.2 thousand NPS males. At a score of 60, all 82.2 thousand applicants would be qualified. They would have a first-year loss rate of 24.2 percent, and 62.3 thousand of them would be left by the end of the year.

Assume that we want to maintain this 62.3 thousand endstrength while raising the qualifying score. Very few applicants are screened out below a score of 67, and not many there. The first-year loss rate is about the same as before, and only 500 additional recruits have to be obtained to meet the endstrength goal. At a replacement cost of $5,000 per head, about a million dollars are saved. But half of this saving must be spent to recruit the additional higher quality recruits needed to make the endstrength goal. Therefore, 67 is a bare minimum qualifying score.

A significant change occurs at a qualifying score of 70. About 95 percent of the cohort is qualified and has a first year loss rate of 23 percent. To meet the endstrength goal, 3100 additional quality recruits are needed, and they cost over 3 million dollars. However, the reduction in first year losses saves 5 million dollars, for a net saving of over a million dollars. At a score of 71, the picture is about the same as at 70.

The next actual score is 73. It involves a big drop in the number qualifying (about 88 percent of the cohort, down from 94 percent). The loss rate drops, too, but 8200 additional quality recruits are needed to make the endstrength goal. They cost over 9 million dollars, and their cost is not offset by the savings in losses.

---

[1] At a qualifying score of 70, mental group 3U 20-year-olds with LTHS would qualify in the current streamlined SCREEN, but not under the 1977 updated version. However, mental group 3L 20-year-olds with GEDs would qualify on the updated SCREEN, but not under the current one. The net result would be 282 more of 83,000 men in the CY 1977 cohorts who would qualify on the current SCREEN but not on the 1977 version, a very small number.

TABLE 8

SCREEN QUALIFYING SCORE EFFECTS PROJECTED FOR FY 1980 NPS MALES
(Numbers in thousands, dollars in millions)

Qualifying score	Qualified %	Qualified #	% lost 1st year	# stay 1st year	Additional[a] recruits to make 62.3 RS	Recruit goal = # qualified + add'l recruits	1st year loss #	1st year loss Reduction from 19.9	Savings = Reduction x $5.0	Percent of goal[b] A	Percent of goal[b] B	Cost = $ 2.5 A + $1.0C[c] (stdzd)	Additional recruits #	Additional recruits Cost	Net savings
60	100.0	82.2	24.2	62.3	0.0	82.2	19.9	0	0	45	18	1	0	0	0.0
67	99.1	81.5	24.1	61.9	0.5	81.9	19.7	0.2	1.0	45	18	1	0.5	0.5	0.5
70	94.7	77.9	23.3	59.8	3.1	81.0	18.9	1.0	5.0	47	19	1.05	3.1	3.3	1.7
71	94.1	77.3	23.2	59.4	3.6	80.9	18.8	1.1	5.5	48	19	1.07	3.6	3.9	1.6
73	87.5	71.9	22.6	55.6	8.2	80.1	18.1	1.8	9.0	51	21	1.14	8.2	9.3	-0.3

[a] Takes losses into account at cohort rate.

[b] Recruit quality categories: A is HSDG mental groups 1-3U; B is non-HSDG mental groups 1-3U; C is HSDG mental groups 3L and 4; and D is non-HSDG mental groups 3L and 4.

[c] B and D quality recruits are assumed to cost less to obtain.

Now these costs need not be exact to make the analysis useful. The relative values at different score levels are the important things, and they show that a qualifying score of 70 is a good trade-off between gains and losses. Below 70, little screening is done, above it, too much. At 70, all applicants qualify if they have 12 or more years of education and/or AFQT scores above the 49th percentile, or at least 11 years of education and AFQT scores from the 35th to 49th percentiles.

CONCLUSIONS

1. For women, a SCREEN table is unnecessary as long as the current selection policy requiring mental group 1 through 3 upper high school graduates remains in force.

2. For non-prior-service males, either the current operational SCREEN or a streamlined version of it are suitable for continued use.

3. The current qualifying score of 70 is optimal for non-prior-service male applicants.

4. The application of new statistical model will produce curves of survival chances over the entire first enlistment for screening purposes in the future.

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2. Center for Naval Analyses, Research Contribution 338, "A Revised SCREEN Model for Recruit Selection and Recruitment Planning," by Robert F. Lockman, Patrice L. Gordon, Unclassified, August 1977

3. Center for Naval Analyses, Research Contribution 402, "Nonparametric Methods for Estimating Recruit Survival With Cross-Sectional Data," by Philip M. Lurie, Unclassified, September 1979

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APPENDIX A

REGRESSION COEFFICIENTS FOR CY 1977 COHORTS

TABLE A-1

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF ATTENDING A SCHOOL (USN males)

Variable	Coefficient	Standard deviation	X^{2a}
Constant	-0.537	0.032	281.610
PDEPS	0.393	0.023	291.964
NHSG	-0.753	0.013	3355.083
GED	-0.345	0.020	297.563
MGRP1	2.026	0.040	2565.423
MGRP2	1.690	0.033	2622.601
MGRP3U	1.243	0.033	1418.778
MGRP3L	0.616	0.033	348.444
AGE17	-0.103	0.015	47.151
AGE19	-0.166	0.015	122.471
AGE20P	-0.320	0.014	522.449

[a]All Chi-squared (X^2) values in this and subsequent tables have one degree of freedom. The five percent significance level of a X^2 distribution with one degree of freedom is 3.841. All X^2 values greater than 3.841 are considered significant.

TABLE A-2

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF COMPLETING A SCHOOL (USN males)

Variable	Coefficient	Standard deviation	X^2
Constant	1.132	0.074	234.007
PDEPS	0.101	0.033	9.367
NHSG	-0.333	0.022	229.110
GED	-0.205	0.031	43.730
MGRP1	0.460	0.079	33.905
MGRP2	0.359	0.075	22.912
MGRP3U	0.184	0.075	6.019
MGRP3L	0.103	0.076	1.837
AGE17	-0.128	0.024	28.444
AGE19	-0.018	0.024	0.563
AGE20P	-0.034	0.023	2.185

TABLE A-3

COEFFICIENT ESTIMATES IN THE
COX REGRESSION ANALYSIS FOR GENDETS
(USN males)

Variable	Coefficient	Standard deviation	χ^2
PDEPS	-0.552	0.051	116.462
NHSG	0.275	0.021	172.004
GED	0.143	0.034	17.524
MGRP1	0.680	0.064	111.474
MGRP2	0.349	0.044	62.145
MGRP3U	0.096	0.043	5.024
MGRP3L	-0.053	0.042	1.501
AGE17	-0.079	0.025	9.699
AGE19	0.035	0.026	1.804
AGE20P	0.191	0.025	58.670

TABLE A-4

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL DISENROLLEES (USN males)

Variable	Coefficient	Standard deviation	X^2
PDEPS	0.030	0.121	0.060
NHSG	0.727	0.077	89.728
GED	0.757	0.101	56.032
MGRP1	0.490	0.302	2.632
MGRP2	0.216	0.284	0.577
MGRP3U	0.149	0.283	0.278
MGRP3L	-0.053	0.288	0.034
AGE17	-0.015	0.086	0.031
AGE19	0.128	0.095	1.790
AGE20P	0.219	0.090	5.923

TABLE A-5

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL GRADUATES (USN males)

Variable	Coefficient	Standard deviation	χ^2
PDEPS	-0.061	0.063	0.924
MISC	0.874	0.046	359.956
GED	0.753	0.060	158.426
MGRP1	0.138	0.232	0.355
MGRP2	0.166	0.226	0.544
MGRP3U	0.192	0.226	0.719
MGRP3L	0.109	0.229	0.226
AGE17	0.129	0.053	6.041
AGE19	0.088	0.053	2.725
AGE20P	0.202	0.050	16.356

TABLE A-6

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF ATTENDING A SCHOOL (USNR males)

Variable	Coefficient	Standard deviation	χ^2
Constant	-0.742	0.061	147.961
PDEPS	0.307	0.046	6.674
NHSG	-0.438	0.026	283.793
GED	-0.276	0.042	43.184
MGRP1	1.462	0.088	276.013
MGRP2	1.326	0.063	443.002
MGRP3U	0.892	0.062	206.989
MGRP3L	0.491	0.062	62.716
AGE17	-0.037	0.031	1.425
AGE19	-0.068	0.030	5.13P
AGE20P	-0.137	0.029	22.317

TABLE A-7

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF COMPLETING A SCHOOL (USNR males)

Variable	Coefficient	Standard deviation	χ^2
Constant	0.949	0.137	47.983
PDEPS	0.123	0.081	2.306
NHSG	-0.261	0.408	29.566
GED	-0.162	0.078	4.314
MGRP1	0.650	0.176	13.640
MGRP2	0.454	0.139	10.669
MGRP3U	0.229	0.138	2.754
MGRP3L	0.339	0.141	5.780
AGE17	-0.940	0.057	271.961
AGE19	0.203	0.057	12.684
AGE20P	-0.707	0.054	171.416

TABLE A-8

COEFFICIENT ESTIMATES IN THE
COX REGRESSION ANALYSIS FOR GENDETS
(USNR males)

Variable	Coefficient	Standard deviation	X^2
PDEPS	-0.585	0.094	38.704
NHSG	0.435	0.039	124.575
GED	0.295	0.063	21.610
MGRP1	0.260	0.140	3.445
MGRP2	0.064	0.082	0.599
MGRP3U	-0.102	0.078	1.729
MGRP3L	-0.086	0.076	1.275
AGE17	-0.016	0.046	0.126
AGE19	0.079	0.047	2.784
AGE20P	0.228	0.046	24.406

TABLE A-9

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL DISENROLLEES (USNR males)

Variable	Coefficient	Standard deviation	χ^2
PDEDS	-0.073	0.330	0.049
NHSG	0.509	0.197	6.692
GED	0.318	0.311	1.041
NGRP1	1.452	0.693	4.386
NGRP2	0.275	0.604	0.207
NGRP3U	0.452	0.594	0.579
NGRP3L	0.223	0.606	0.135
AGE17	-0.041	0.209	0.039
AGE19	-0.514	0.273	3.548
AGE20P	-0.072	0.224	0.105

TABLE A-10

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL GRADUATES (USNR males)

Variable	Coefficient	Standard deviation	X^2
PDEPS	-0.188	0.175	1.157
NHSG	0.889	0.111	64.688
GED	0.724	0.166	18.953
MGRP1	-0.668	0.418	2.560
MGRP2	-0.614	0.345	3.175
MGRP3U	-0.424	0.342	1.531
MGRP3L	-0.542	0.349	2.420
AGE17	0.323	0.129	6.265
AGE19	0.072	0.144	0.252
AGE20P	0.347	0.133	6.846

TABLE A-11

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF ATTENDING A SCHOOL (USN females)

Variable	Coefficient	Standard deviation	X^2
Constant	-0.087	0.083	1.099
MARRIED	-0.227	0.099	5.258
NHSG	-0.051	0.258	0.039
GED	-0.375	0.068	30.412
MGRP1	0.671	0.105	40.838
MGRP2	0.270	0.069	15.312
MGRP3U	-0.143	0.068	4.422
AGE17	0.049	0.080	0.375
AGE19	-0.155	0.048	10.428
AGE20	-0.068	0.066	1.062
AGE21	0.108	0.088	1.506
AGE22	0.119	0.097	1.505
AGE23P	0.122	0.079	2.385

TABLE A-12

COEFFICIENT ESTIMATES IN THE PROBIT ANALYSIS OF CHANCES OF COMPLETING A SCHOOL (USN females)

Variable	Coefficient	Standard deviation	X^2
Constant	1.062	0.097	119.869
MARRIED	0.209	0.226	0.855
NHSG	0.191	0.361	0.280
GED	-0.231	0.185	1.559
MGRP1	0.443	0.155	8.169
MGRP2	0.302	0.108	7.819
MGRP3U	0.161	0.109	2.182
AGE17	-0.261	0.111	5.529
AGE19	-0.024	0.096	0.063
AGE20	-0.010	0.112	0.008
AGE21	0.127	0.153	0.689
AGE22	0.874	0.163	28.751
AGE23P	0.043	0.135	0.101

TABLE A-13

COEFFICIENT ESTIMATES IN THE
COX REGRESSION ANALYSIS FOR GENDETS
(USN females)

Variable	Coefficient	Standard deviation	X^2
MARRIED	0.628	0.153	16.980
NHSG	1.114	0.175	40.745
GED	0.052	0.120	0.186
MGRP1	-0.117	0.239	0.239
MGRP2	-0.263	0.133	3.918
MGRP3U	-0.269	0.126	4.564
AGE17	-0.119	0.163	0.531
AGE19	0.068	0.110	0.381
AGE20	0.183	0.128	2.059
AGE21	-0.237	0.178	1.784
AGE22	0.025	0.189	0.017
AGE23P	-0.159	0.154	1.067

TABLE A-14

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL DISENROLLEES (USN females)

Variable	Coefficient	Standard deviation	X^2
MARRIED	0.586	0.746	0.616
NHSG	0.087	0.524	0.028
GED	0.626	0.316	3.915
MGRP1	0.241	0.614	0.155
MGRP2	0.419	0.392	1.139
MGRP3U	0.202	0.400	0.254
AGE17	-0.418	0.418	1.000
AGE19	-0.139	0.319	0.190
AGE20	-0.162	0.386	0.177
AGE21	-0.620	0.574	1.168
AGE22	-0.443	0.620	0.511
AGE23P	-0.824	0.426	3.735

TABLE A-15

COEFFICIENT ESTIMATES IN THE COX REGRESSION ANALYSIS FOR A SCHOOL GRADUATES (USN females)

Variable	Coefficient	Standard deviation	X^2
MARRIED	0.203	0.319	0.408
NHSG	0.064	0.458	0.020
GED	0.622	0.201	9.597
MGRP1	-0.466	0.324	2.072
MGRP2	-0.010	0.232	0.002
MGRP3U	-0.014	0.238	0.003
AGE17	-0.132	0.278	0.227
AGE19	0.051	0.181	0.078
AGE20	-0.030	0.213	0.020
AGE21	-0.300	0.296	1.024
AGE22	0.196	0.287	0.473
AGE23P	-0.207	0.257	0.649